

REMARKS

Claims 10, 14, 18-23, and 25 have been cancelled. Claims 26-29 have been added. The claims remaining in the application are 1-9, 11-13, 15-17, 24, and 26-29.

Drawings

A copy of the formal drawings are submitted herewith. Approval by the Examiner is respectfully requested.

Specification

The title has been amended to conform with the preamble of claim 1. Approval by the Examiner is respectfully requested.

Claim Objections

Claim 14 has been objected to due to informalities. Claim 14 has been cancelled via the present amendment.

Duplicate Claim

Claim 25 has been found to be a substantial duplicate of claim 24 by the Examiner. Claim 25 is hereby cancelled from the present application.

Rejection Under 35 U.S.C. § 112

The Office Action has rejected claims 18-23 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed. Claims 18-23 have been cancelled from the present application.

Rejection Under 35 U.S.C. § 102

The Office Action has rejected claims 1-4, 8, -15-20, 22, 24, and 25 under 35 U.S.C. 102(b) as being anticipated by Braun et al. (U.S. 7,239,422). This rejection is respectfully traversed.

Braun et al. (U.S. 7,239,422) is directed to identifying a reduced gamut based on an identified complete gamut and a zero-black colorant gamut

based on evaluating a cost function. A range of candidate ink coordinates whose mapped color space coordinates fall on a line between a point on the complete gamut and a point on the zero-black colorant are examined based on the cost function. The loci of such points represent the reduced gamut boundary.

Braun et al. refers to Wan (U.S. 5,721,572) for a method of generating the complete and zero-black gamut boundaries based on a set of triangular segments of the device dependent colorant space surface. Wan's method of generating gamut boundaries is quite different from the present invention, employing convex hull interpolation in a device independent color space for a 4-ink device dependent color space. Thus, the amended claims are clearly distinguishable from Braun et al. since Braun et al. does not include all the amended claim limitations of the present invention.

Rejection Under 35 U.S.C. § 103

The Office Action has rejected claims 5 and 23 under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (U.S. 7,239,422) in view of Huang et al. (U.S. 5,652,831). This rejection is respectfully traversed. Claim 23 has been cancelled.

The Office Action has rejected claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (U.S. 7,239,422) in view of Huang et al. (U.S. 5,652,831) as applied to claim 5 above, and further in view of Castelli et al. (U.S. 5,748,221). This rejection is respectfully traversed.

The Office Action has rejected claims 9 and 21 under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (U.S. 7,239,422) in view of Ciccarelli et al. (U.S. 5,591,552). This rejection is respectfully traversed. Claim 21 has been cancelled.

The Office Action has rejected claims 10-13 under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (U.S. 7,239,422) in view of Mahy (U.S. 5,872,898). This rejection is respectfully traversed.

Mahy (U.S. 5,872,898) is directed to identifying a gamut boundary for an n-ink device by performing a union of constituent 3-ink gamut boundaries derived based on a Neugebauer physical device model. Mahy is similar to the present invention, insofar as Mahy's 2-ink processes are consistent with the present invention's inkvector. However, Mahy teaches forming a 3-ink gamut

boundary by analytical means [C9,L62 – C11,L44]. As understood the Mahy method involves using a Jacobian of the physical device model to identify whether a point on the surface of the 3-ink color cube is also on the boundary of the device-independent color surface. A locus of such determined points for a constant luminance corresponds to a contour of the gamut boundary for the 3-ink gamut boundary at the constant luminance.

In contrast the present invention uses a less complex approach not suggested by the prior art and does not rely on a forward model based on a physical device model.

- a. Other forms of forward models, such as an interpolation algorithm for measured color coordinates and corresponding ink coordinates, can be used.
- b. The method of the present invention is computationally less complex since it only needs to select from a set of endpoints demarking lines identified by the intersection of a subset of inkvectors with a plane of constant luminance.
 - i. Determining the subset of inkvectors is based on only two coordinate mappings per inkvector.
 - ii. Determining the endpoints for the subset of inkvectors is based on only two coordinate mappings per inkvector of the subset.
 - iii. From the endpoints of interest, simple geometrical analysis is used to select boundary points forming a coarse gamut contour for the constant luminance.

A fine contour can be established by mapping intermediate points where an inkvector intersects the luminance plane.

The Office Action has rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (U.S. 7,239,422) in view of Spaulding et al. (U.S. 5,539,540). This rejection is respectfully traversed. Claim 14 has been cancelled.

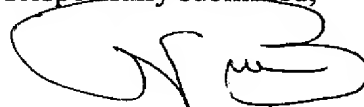
CONCLUSION

Dependent claims not specifically addressed add additional limitations to the independent claims, which have been distinguished from the prior art and are therefore also patentable.

In conclusion, none of the prior art cited by the Office Action discloses the limitations of the claims of the present invention, either individually or in combination. Therefore, it is believed that the claims are allowable.

If the Examiner is of the opinion that additional modifications to the claims are necessary to place the application in condition for allowance, he is invited to contact Applicant's attorney at the number listed below for a telephone interview and Examiner's amendment.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.